

19980626.qrp v01\_n134.qrs.980626

Date: Fri, 26 Jun 1998 19:03:10 EDT  
From: qrp-l@Lehigh.EDU  
To: "Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>  
Subject: QRP-L digest 1134

QRP-L Digest 1134

Topics covered in this issue include:

- 1) [13861] Bandwidth Confessions  
by FrConrad@aol.com
- 2) [13862] NQ2RP/B  
by Stewart Whitehouse <STEW\_W@CompuServe.COM>
- 3) [13863] Re: Fire Power  
by Axel Darling <axel@lasercom.net>
- 4) [13864] Re: Rainbow Enclosure  
by "Saad Mahaini" <Saad.Mahaini@MCI.Com>
- 5) [13865] Another FD club listing  
by "rohre" <rohre@arlut.utexas.edu>
- 6) [13866] TAContest Logs  
by kt3a@juno.com (Cameron C.R. Bailey)
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by Ab7wy@aol.com
- 9) [13869] Re: Phosphor Bronze correction.  
by "George T. Baker" <w5yr@swbell.net>
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- 12) [13872] RE: Fire Power  
by cy r currier <crc3@telplus.net>
- 13) [13873] Field day class  
by "T.J. \"SKIP\" Arey N2EI" <tjarey@home.com>
- 14) [13874] Re: Build! Build! Build!  
by "L. B. Cebik" <cebik@utkux.utcc.utk.edu>
- 15) [13875] RE: Fire power  
by "Prof.Arnaldo Coro Antich" <inforhc@mail.infocom.etecsa.cu>
- 16) [13876] RE: Milliwating  
by "Prof.Arnaldo Coro Antich" <inforhc@mail.infocom.etecsa.cu>
- 17) [13877] mosquitos, take me away  
by Fran Flynn <fflynn@together.net>
- 18) [13878] Re: Fire power  
by W7LS <w7ls@blarg.net>
- 19) [13879] Radio in POW camp- Amazing!

- by radioray@juno.com (Raymond E Tougas)
- 20) [13880] RE: Fire power  
by Bruce Muscolino <w6toy@erols.com>
- 21) [13881] RE: Radio in POW camp Amazing!  
by macstein@cftnet.com (Mac Steinmeyer)
- 22) [13882] NEED MPN3700 PIN DIODE  
by mfitz@uswest.net
- 23) [13883] Re: Milliwating  
by Leon Heller <leon@lfheller.demon.co.uk>
- 24) [13884] Free filter design software  
by mike czuhajewski <wa8mcq@abs.net>
- 25) [13885] FD: W1AW/QRP occasionally  
by "Tracy, Michael, KC1SX" <mtracy@arrl.org>
- 26) [13886] Fire Power:Thermopiles  
by Greg Weinfurtner <gweinfurt1@ohiou.edu>
- 27) [13887] FD Propagation report???
- by "Warren E. Lewis" <saswel@unx.sas.com>
- 28) [13888] Re: Milliwating  
by Zack Lau <zlau@arrl.org>
- 29) [13889] Re: QRP-L digest 1133  
by RUSSMIN@aol.com
- 30) [13890] Re: 3V vs 12V vs 24V  
by "Ed Pacyna" <pacyna@worldnet.att.net>
- 31) [13891] Sub-mini 3V rig is possible  
by Steven Weber <kd1jv@moose.ncia.net>
- 32) [13892] Copy of Joy of QRP available  
by "Pepperdine, Brien (CAB)" <pepperdb@cab.gov.on.ca>
- 33) [13893] Re: FD Propagation report???
- by Paul Harden <pharden@aoc.nrao.edu>
- 34) [13894] Re: Sub-mini 3V rig is possible  
by Zack Lau <zlau@arrl.org>
- 35) [13895] QRP Mobile... Work Me Please!  
by Christian - KF6IHU <kf6ihu@morphine.com>
- 36) [13896] Re: Fire Power:Thermopiles  
by Ed Loranger <we6w@qsl.net>
- 37) [13897] Re: Sub-mini 3V rig is possible  
by "Ed Pacyna" <pacyna@worldnet.att.net>
- 38) [13898] FS: TAC-1  
by "C.D. Rakes" <cdrakes@ipa.net>
- 39) [13899] Small wonder labs- summer break  
by Bensondj@aol.com
- 40) [13900] RE: Fire Power  
by KC5TJA <kc5tja@topaz.axisinternet.com>
- 41) [13901] Minor Storm Update  
by Paul Harden <pharden@aoc.nrao.edu>
- 42) [13902] Re: Fire Power:Thermopiles  
by Ed Loranger <we6w@qsl.net>
- 43) [13903] Re: Sub-mini 3V rig is possible

- by Steven Weber <kd1jv@moose.ncia.net>  
44) [13904] Re: FW: HR2/ KD2IX 7/14 - 7/27  
by Zack Lau <zlau@arrl.org>  
45) [13905] Re: linear  
by "laura halliday" <marsgal42@hotmail.com>  
46) [13906] "Honey I shrunk the ZM-2  
by "Steve Galchutt" <n0tu@webaccess.net>  
47) [13907] ;;  
by Niel Skousen <skousen@srv.net>  
48) [13908] SOLAR Uses for QRP?  
by Dennis Brickey <n4dd@preferred.com>

-----  
Date: Thu, 25 Jun 1998 19:26:47 EDT  
From: FrConrad@aol.com  
To: qrp-l@Lehigh.EDU  
Subject: [13861] Bandwidth Confessions  
Message-ID: <e286b881.3592dcb8@aol.com>  
Mime-Version: 1.0  
Content-type: text/plain; charset=US-ASCII  
Content-transfer-encoding: 7bit

To All:

For the last several months I have encountered the statement, "Sorry for the bandwidth...", before a message.

As one who makes his living hearing confessions, I am forced (get thee behind me, Satan) to observe that one cannot be sorry for something that one has not yet done, anymore than one can go back to where one has not been.

If, when one types the words "sorry for the bandwidth.." one is, at that moment truly sorry, then one needs only hit the little "X" at the top of the screen and delete the message before it is sent, thereby having nothing to be sorry for. Conversely (and perhaps perversely), if one knowingly types the words "sorry for the bandwidth", but then goes ahead and soaks up the bandwidth anyway by sending the message to the server, then one was not really sorry in the first place.

Sort of reminds you of the discussion about powering a transmitter with a receiver, doesn't it?

How about those mosquitoes?

John+

P.S. I'm not the least bit sorry about the bandwidth.

-----  
Date: Thu, 25 Jun 1998 19:27:45 -0400  
From: Stewart Whitehouse <STEW\_W@CompuServe.COM>  
To: Low Power Amateur Radio <QRP-L@Lehigh.EDU>  
Subject: [13862] NQ2RP/B  
Message-ID: <199806251928\_MC2-515B-2F11@compuserve.com>  
MIME-Version: 1.0  
Content-Transfer-Encoding: quoted-printable  
Content-Type: text/plain; charset=ISO-8859-1  
Content-Disposition: inline

Hi folks.

Copied the NQ2RP beacon here on the west coast of Florida this afternoon. It was very weak but I copied enough to positively identify the beacon. Only other activity I heard around that time (1725Z) was the WJ50 beacon and another Texas station on SSB.

The beacon is only about 125mw so the band was certainly open for QRP from the Northeast to Florida. Just nobody making noise on 10 meters!

It was fun to watch the NQ2RP beacon fade in and out with the FFTDSP Software during times when I couldn't hear it at all. The rig used is a Ten-Tec OMNI VI and an R7 vertical antenna. The Plus upgrade to the OMNI helped alot in copying the signal. (the upgrade consists of changing a chip in the receiver and adds DSP filtering) It really helps when copying the FOX too. Makes him jump right up out of the noise. Oops, got to be careful with my secrets.

72  
Stew, KE4YH  
Dunedin, Florida  
EL88oa

-----  
Date: Thu, 25 Jun 1998 16:28:37 -0700  
From: Axel Darling <axel@lasercom.net>  
To: mike@krypton.nmr.Hawaii.Edu

Subject: [13863] Re: Fire Power  
Message-ID: <4.0.1.19980625154944.00e328f0@lasercom.net>  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"

Hey Mike and qrp-l group,

The way I used to make thermocouples was to weld them by hooking the wires to high current power sources at about 24 volts. Gently touching the wires together bonded them in a bead which provided a tiny EMF at temperature. Alternating many closely coupled bondings may produce enough voltage for a discrete microwatt transmitter but intuitively I have my suspicions that it would provide the current for what most operators would tolerate as a minimally functional DX rig.

If one junction produces a few millivolts then it would take a ton of junctions for the required voltage and bunches of those in parallel for a usable source of power. If someone has the right wire for maximum effect, and would donate it, I'd be glad to do the experimenting. :)

It would be fun to design a 17 meter QRP DX rig just for this source and I have an idea using special Motorola transistors that were engineered for the hearing impaired industry. Low voltage, 1 to 3 volts and low current. I worked a couple of overseas stations with 1 milliwatt on 15 meters so I know its possible.

Someone mentioned dynamic range in this thread but golly, constraints are a part of life and what is so important to dismiss the joy of amateur experimentation and the SIMPLE pursuit of life? After all 30 years ago and before, nobody was all that keenly depressed about receiver overload, they lived with it. Operating was more important. Besides, this IS QRP! eh?

My Astron VS-50M 50 amp 15 volt variable lab power supply does a good job of creating junctions. A 12 volt lead acid car battery also works. You might just give it a try.

Cheers, Ax

-----

Date: Thu, 25 Jun 1998 18:28 -0500 (CDT)  
From: "Saad Mahaini" <Saad.Mahaini@MCI.Com>  
To: dave\_epps@juno.com  
Cc: "Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>  
Subject: [13864] Re: Rainbow Enclosure  
Message-ID: <19980625233015.AAA6131@localhost>

No I have not received mine. I have been waiting on heat sinks for my 38S for well over a year. Saad KB6VIR/5 Dallas

Date: Thu, 25 Jun 1998 17:22 -0500 (CDT)  
From: dave\_epps@juno.com  
To: "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>  
Reply-To: dave\_epps@juno.com  
Sender: owner-qrp-1@Lehigh.EDU  
Subject: Rainbow Enclosure

Anyone rcvd their Rainbow Tuner enclosure from San Louis Mach.?  
dave ab5pc fresno, ca.

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Date: 25 Jun 1998 18:55:03 -0500  
From: "rohre" <rohre@arlut.utexas.edu>  
To: qrp-1@Lehigh.EDU  
Subject: [13865] Another FD club listing  
Message-ID: <n1313321528.11254@msmailgw1.arlut.utexas.edu>

Cam had asked me to send him this for his list; but work on a publication has taken all my time on the CPU to a great deal of the time, and had no opportunity to look up the calls of the operators. My apology, Cam.

So here is what I have:  
Call to be used W5KA  
Club entry: Austin Amateur Radio Clubs  
A number of operators, (hopefully 45)  
Location: Anderson High School field, Austin TX (Steck and Mesa Ave. NW Austin)

GL in the Contest!  
72, Stuart K5KVH

---

Date: Thu, 25 Jun 1998 20:15:23 -0400  
From: kt3a@juno.com (Cameron C.R. Bailey)  
To: qrp-1@Lehigh.EDU  
Cc: bobwicks@aol.com, w3hms@aol.com  
Subject: [13866] TAContest Logs  
Message-ID: <19980625.201525.3334.9.kt3a@juno.com>

I am still receiving a trickle of submissions for the TAContest that both the QRP Society of Central PA and the Eastern PA QRP sponsored on June 6. There were an estimated 50 stations who participated and so far have about 25 logs. You have until July 15th to submit them and I will have the results before the end of July. I have received logs from about 13 states so far. Of the 25 logs, 7 were tactical stations, 4 were QRPP, and 6 were homebrew. Keep them coming in, I am working the prizes and hope to offer a prize drawn by random selection. The NJ Club has donated a Rainbow tuner for the tactical category.

72, kt3a  
Cameron C.R. Bailey  
Mount Wolf, Pennsylvania  
kt3a@juno.com

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Or call Juno at (800) 654-JUNO [654-5866]

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Date: Thu, 25 Jun 1998 17:30:30 -0700  
From: W7LS <w7ls@blarg.net>  
To: mike@krypton.nmr.Hawaii.Edu  
Cc: qrp-1@Lehigh.EDU  
Subject: [13867] Re: Fire Power  
Message-ID: <3592EBA6.5EE@blarg.net>  
MIME-Version: 1.0  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

Hi, Mike. You are right. In fact, I have made fire power here in the shack for ten bucks. Made about a watt or so. It's easy. Just get a Peltier junction thermocooler from Jade (or whoever) and plop it in an icewater bath, with the attached heatsink in the water. Take a propane torch or whatever and direct some heat (careful, now...) at the other side (exposed side, sticking up out of the water) and put a load resistor on it. I got something like a volt or so. Don't remember. Got most of an

amp, if I recall. The power you get out is dependent on the resistive load you use. Remember that impedance matching stuff, hmmmmm? I calculated the optimum impedance load and got significant power out of it. I figured 3 or so will charge a battery pretty fast with a camp stove. You could even use a supercap (1 Farad) like the stiffeners used in car stereos and get instant power for that qso.

This stuff really works, guys. I'd be interested in seeing the article on the stovepipe homespun generator, too.

73 de Jim, W7LS

Mike W. Burger wrote:

>  
> Something not mentioned here as a source of QRP power is fire. I  
> suddenly remembered an ancient article in something like Popular  
> Mechanics for building a thermopile. The thermocouples required  
> are easily made with a small spot welder. You cannot of course  
> solder the dissimilar wires together.  
>  
> As I recall they were using a food can inside a larger coffee can  
> with both ends cut out. Between the two was a bit of high temperature  
> insulation. The thing was like a chimney with stacked layers of  
> thermocouples installed in it. By using dozens of thermocouples,  
> quite a bit of power could be generated.  
>  
> What made me think of this was oggling the Campmor catalog and  
> looking at all the tiny backpack stoves, even little folding  
> stoves that use small "fuel pellets".  
>  
> It would be interesting to review just what kind of power levels  
> an easy to transport system built in a coffee can and powered by  
> small fuel pellets would generate. The scientific stations left  
> by Apollo on the moon were powered by thermopiles, driven by the  
> heat from a very hot slug of plutonium.  
>  
> Should be more reliable than trained hampsters on a wheel and  
> certainly more powerful than anything you could rectify from  
> the commercial AM stations, effective day and night. I would  
> not be surprised if an adequate thermopile could be built into  
> one of the nice candle lanterns to provide both light and power  
> one of the super tiny Qrpp transcievers.  
>  
> AH7R - Mike Burger, University of Hawaii at Manoa, Dept. of Chemistry  
> HI-QRP #28 - QRP-L #1053 - FISTS #3225 - BL11ch - Honolulu County

-----



Date: Thu, 25 Jun 1998 20:32:39 EDT  
From: Ab7wy@aol.com  
To: qrp-l@Lehigh.EDU  
Subject: [13868] Re: More on mosquitos  
Message-ID: <10512fc8.3592ec28@aol.com>  
Mime-Version: 1.0  
Content-type: text/plain; charset=US-ASCII  
Content-transfer-encoding: 7bit

Hi Tim (and the other mosquito veterans): wow! i wish i lived where you did up there. i cant recall a non-winter day that wasnt infested with those little demons. i also lived in the bush and got mobbed on a daily basis by what i could only describe as "flying monkeys" trying to stab me....however, they were very useful as low level satelites for bouncing signals off of. i grew up there and they really stick out in my mind, i also lived in Maryland, mississippi and washington(where i am now). they were by far the worst in alaska. they are also great for an endless string of mosquito jokes.....a mosquito walks into a bar.....anyway, im getting ready for FD. i hope one of you guys can figure out the "mosquito skyhook" that weve been talking about, im guessing high scores for that station. look foward to meeting you all on the air. 73,Adam, AB7WY

-----  
Date: Thu, 25 Jun 1998 19:48:20 -0500  
From: "George T. Baker" <w5yr@swbell.net>  
To: we6w@qsl.net  
Cc: Low Power Amateur Radio Discussion <qrp-l@Lehigh.EDU>  
Subject: [13869] Re: Phosphor Bronze correction.  
Message-ID: <3592EFD4.8A387F8D@swbell.net>  
MIME-Version: 1.0  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

Time to go back on the meds, Ed.

--  
72/73, George  
Amateur Radio W5YR, 52 years and counting!  
QRP-L #1373 QRP ARCI #9583 FISTS #4930 ARS #403  
AutoPOWER Systems, Fairview, TX (30 Mi. N. of Dallas)

Ed Loranger wrote:

>  
> Uhhh, where is my second line....

>  
> Efficiency is  $\text{Rad\_resistance}/(\text{Rad\_res} + \text{R\_Losses})$ .  
>  
> Somehow lost the line before the perion.  
>  
> OH--- My email at qsl.net is not working. Direct  
> any private email to <mailto:ooringer@geocities.com>  
> if you must contact me.  
>  
> Best to all. And how do I add my little go-tee beard  
> to my smilin' Ed icon I designed? Let's see, I have  
> short hair ---> =  
> Glasses -----> =E  
> and smile alot> =ED  
> go-tee? -----> =ED>  
>  
> And my first name is in the Icon. cute huh? right!  
> -Ed  
> --  
> 72, =ED, WE6W/qrp CW ONLY; Proud Member: QRP-L/ARCI/Norcal/ARS/AR  
> <http://www.qsl.net/we6w> (Enjoying Ham Radio every day.)

--  
72/73, George  
Amateur Radio W5YR, 52 years and counting!  
QRP-L #1373 QRP ARCI #9583 FISTS #4930 ARS #403  
AutoPOWER Systems, Fairview, TX (30 Mi. N. of Dallas)

-----  
Date: Thu, 25 Jun 1998 18:51:40 -0600  
From: "Steve Galchutt" <n0tu@webaccess.net>  
To: "\"Low Power Amateur Radio Discussion\"" <qrp-l@Lehigh.EDU>  
Subject: [13870] Define Field Day...  
Message-ID: <004e01bda09c\$c80a4320\$88a8a3cc@SG2939M.webaccess.net>  
MIME-Version: 1.0  
Content-Type: text/plain;  
charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

I want to make up a placard for our field day site even though passerbys  
will most likely be deer or other creatures of the night...But should it  
happen another creature/hiker stubles onto our wilderness campsite and they  
can 'read' english ... a poster or sign would do a great job of explaining -  
'what the heck are you guys doing with all that wire?'

So, I turn to the ole HB and look up "Field Day" they had one little

paragraph that said ...

"Field Day is annual event in which ham radio operators all over the country participated in a emergency preparedness field event to test equipment and antennas in the event of a disaster. A secondary goal seems to be making as many contacts as possible with other emergency powered stations ....."

The ARRL's ain't bad but maybe I'm looking for something less dry? or a couple brief sentences that capture it for a quick read...any suggestions.

and probably only to be read by a bear!

72...Steve

-----  
n0tu - solar powered QRP & wire antennas @ 7,200' ASL  
Monument, Colorado - Grid Sq DM79nb  
homepage: <http://www.webaccess.net/~S&P/HRindex.htm>  
email: n0tu@webaccess.net

-----  
Date: Thu, 25 Jun 1998 20:59:29 EDT  
From: Ab7wy@aol.com  
To: qrp-1@Lehigh.EDU  
Subject: [13871] FD question  
Message-ID: <9ac4de4f.3592f272@aol.com>  
Mime-Version: 1.0  
Content-type: text/plain; charset=US-ASCII  
Content-transfer-encoding: 7bit

Hi gang, this may sound foolish, but its been a long time since ive done FD. can someone post (just to make sure) the times and classes and any other info on field day. im planning on running 5 watts on home power to a dipole. i plan on doing FD from here on out. the last time i did was in 86 at KL7AA....long time ago! i would appreciate any help. p.s. im pretty much done thinking (or talking) about mosquitoes, im starting to get flashbacks. 72 Adam, AB7WY

-----  
Date: Fri, 26 Jun 1998 09:28:01 -0400  
From: cy r currier <crc3@telplus.net>  
To: Low Power Amateur Radio Discussion <qrp-1@Lehigh.EDU>, "'ctrask@primenet.com'"

<ctrask@primenet.com>  
Subject: [13872] RE: Fire Power  
Message-ID: <01BDA0E4.B970B180@bgr74.lobster.net>  
MIME-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
Content-Transfer-Encoding: quoted-printable

i have done alternative power for years. photo voltaics is best for =  
desert, i believe. water is best and most reliable for a fixed =  
location. it is too heavy FR trekking. wind is excellent for windy =  
locations w adequate storage. i like ur idea of thermal couple and =  
intend to try it prob the winter when time permits. thanks fr the hot =  
tip. cy - k1tes

-----  
From: Chris Trask  
Sent: Thursday, June 25, 1998 9:02 AM  
To: Low Power Amateur Radio Discussion  
Subject: Re: Fire Power

On Thu, 25 Jun 1998, Mike W. Burger wrote:

>=20  
> Should be more reliable than trained hampsters on a wheel and  
> certainly more powerful than anything you could rectify from  
> the commercial AM stations, effective day and night. I would  
> not be surprised if an adequate thermopile could be built into  
> one of the nice candle lanterns to provide both light and power  
> one of the super tiny Qrpp transcievers.  
>=20

And what about water power? Some time ago, Bob Pease wrote  
about needing to recharge his videocamera batteries while backpacking.  
While he got a number of suggestions, I did not recall anyone mention-  
ing the use of a small undershoot water wheel on the shaft of a DC  
motor. When backpacking, there is often a source of running water,  
even out here in the desert.

What's all this  
extinct stuff, anyhow?

Circuit Design for the  
RF Impaired  
  
Chris Trask / N7ZWY  
Principal Engineer  
ATG Design Services  
P.O. Box 25240  
Tempe, Arizona 85285-5240  
=20

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Technical Editor, =20  
 QRP Quarterly  
 QRP ARCI 9464  
 =20  
 Email: ctrask@primenet.com  
<http://www.primenet.com/~ctrask>

Graphics by Loek Frederiks

-----  
 Date: Thu, 25 Jun 1998 21:30:59 -0400  
 From: "T.J. \"SKIP\" Arey N2EI" <tjarey@home.com>  
 To: qrp-1@Lehigh.EDU, kd1jv@mosse.nica.net  
 Subject: [13873] Field day class  
 Message-ID: <3592F9D3.8146BAD4@home.com>  
 MIME-Version: 1.0  
 Content-Type: text/plain; charset=us-ascii  
 Content-Transfer-Encoding: 7bit

If your running off house current and your by yourself you will be Class  
 "1D" if your using batteries or other emergency power (but NOT a  
 generator) you are Class "1E". I think you can get the rules from the  
 League page [www.arrl.org](http://www.arrl.org)

--

+++++

T.J. "SKIP" AREY N2EI e-mail [tjarey@home.com](mailto:tjarey@home.com)

Website <http://members.home.net/tjarey>

Snail Mail: PO Box 236, Beverly, NJ 08010

Author of: RADIO MONITORING The How-To Guide  
 ISBN 1-56866-101-0

Index Publishing Group, San Diego, CA  
[ipgbooks@indexbooks.com](mailto:ipgbooks@indexbooks.com)  
<http://www.electricti.com/~ipgbooks>

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Date: Thu, 25 Jun 1998 21:41:01 -0400 (EDT)  
From: "L. B. Cebik" <cebik@utkux.utcc.utk.edu>  
To: laura halliday <marsgal42@hotmail.com>  
Cc: Low Power Amateur Radio Discussion <qrp-l@Lehigh.EDU>  
Subject: [13874] Re: Build! Build! Build!  
Message-ID: <Pine.GS0.3.96.980625213829.16931C-100000@larry.cas.utk.edu>  
MIME-Version: 1.0  
Content-Type: TEXT/PLAIN; charset=US-ASCII

Laura makes an interesting point about obtaining materials and putting on a "half-professional" face. No one on this list is a mere hobbyist. Each individual is engaged in developing experimental prototypes. The right words go a long way toward obtaining some interesting freebies and near-freebies.

-73-

LB, W4RNL

-----  
Date: Thu, 25 Jun 1998 21:50:48 -0300  
From: "Prof.Arnaldo Coro Antich" <inforhc@mail.infocom.etecsa.cu>  
To: <qrp-l@Lehigh.EDU>  
Subject: [13875] RE: Fire power  
Message-ID: <01bda09c\$75ef47c0\$07199e03@luis>  
MIME-Version: 1.0  
Content-Type: text/plain;  
        charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

Many years ago I saw a working model of a kerosene high intensity pressure lamp sorrouned by a thermopile, which in turn was connected to a radio receiver.

The equipment was designed in the Peoples Republic of China, and according to the leaflet was designed with the idea of using it in remote areas of that country that did not had electricity supplies or batteries. When I asked for the location of the battery, they said that it did not used batteries... that it was actually using the voltage generated by the thermopile to power the radio directly... I then kept asking, and the chinese engineer who spoke some English, said that the receiver used germanium transistors and a special oscillator circuit to generate the operating voltage. He came out with a diagram, and what I saw was that the thermopile generated something like between 1.2 and 2.0 volts, with 2 volts on each

unit ( it had 3 units series connected ) as the nominal voltage at the operating temperature... that fed what looked like an 60 kHz or 80 khz multivibrator, which in turn was the one producing the 9 volts for the radio...

Sounds a bit complicated, but it is a very logical design... With the 2 volts

maximum per thermopile, and that voltage fluctuating, it is a good engineering

practice to feed a high frequency oscillator with germanium transistors... then with the 60 to 80 kilohertz feed a transformer to generate a stable and well filtered 9 to 12 volts... The supply had very good shielding, and good filtering... And the radio tuned from LONG WAVE up to the 13 meter 21 mHz international broadcast band.

It would be interesting to find out if China is still making the lamp with the

thermopiles, which provided about 400 watts of illumination equivalent and power for the radio.

Arnie

C02KK

-----  
Date: Thu, 25 Jun 1998 21:55:58 -0300

From: "Prof.Arnaldo Coro Antich" <inforhc@mail.infocom.etecsa.cu>

To: <qrp-1@Lehigh.EDU>

Subject: [13876] RE: Milliwating

Message-ID: <01bda09d\$2e7a0460\$07199e03@luis>

MIME-Version: 1.0

Content-Type: text/plain;  
charset="iso-8859-1"

Content-Transfer-Encoding: 7bit

Saw a post today of someone claiming QSO's on 15 meters running 1 milliwatt...

My question of the day...

How did you measure that power...

For me it proves to be rather difficult to measure with REPRODUCIBILITY, powers below 50 milliwatts... and REPRODUCIBILITY of measurements is according to my Physics Professor what's all physics is all about ! BTW... seems like the utmost limit of extremely low power propagation via the ionosphere is still very much a good question to ask...

1 milliwatt of output power from a rig, into a feeder and with an antenna of say 0 dBd gain will always be less than 1 milliwatt ERP !

Arnie

C02KK

-----  
Date: Thu, 25 Jun 1998 21:55:51 -0400 (EDT)  
From: Fran Flynn <fflynn@together.net>  
To: ke3nv@erols.com  
Cc: qrp-1@Lehigh.EDU  
Subject: [13877] mosquitos, take me away  
Message-ID: <199806260155.VAA14288@sequoia.together.net>  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"

>We cant use that on field day though as it uses 220v  
>at 30 amps.

As far as I know, it's only the \*radios\* that need to run  
on generators or batteries. :)

OTOH, it might be worth it for the larger generator.

-----  
Date: Thu, 25 Jun 1998 18:56:36 -0700  
From: W7LS <w7ls@blarg.net>  
To: inforhc@mail.infocom.etecca.cu  
Cc: qrp-1@Lehigh.EDU  
Subject: [13878] Re: Fire power  
Message-ID: <3592FFD4.6693@blarg.net>  
MIME-Version: 1.0  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

Hi, Arnie, and group.

Sounds very interesting. Maxim makes several chips that kick the  
voltage up to whatever you want. Several make 12 volts. They run around  
300 KHz. They charge up an inductor and then dump it fast. The fast dump  
makes the higher voltage. MAX608 is one of them. Check out the Maxim  
homepage for lots of these. Cheap, too. Free samples, to boot.

73 de Jim, W7LS



Prof. Arnaldo Coro Antich wrote:

>  
> Many years ago I saw a working model of a kerosene high intensity  
> pressure lamp surrounded by a thermopile, which in turn was connected  
> to a radio receiver.  
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> according to the leaflet was designed with the idea of using it in remote  
> areas of that country that did not have electricity supplies or batteries.  
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> use batteries... that it was actually using the voltage generated by the  
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> engineer who spoke some English, said that the receiver used germanium  
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> maximum per thermopile, and that voltage fluctuating, it is a good  
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> practice to feed a high frequency oscillator with germanium transistors...  
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> meter 21 MHz international broadcast band.  
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> thermopiles, which provided about 400 watts of illumination equivalent  
> and power for the radio.  
> Arnie  
> C02KK

-----  
Date: Thu, 25 Jun 1998 00:53:51 -0600  
From: radioray@juno.com (Raymond E Tougas)  
To: QRP-L@Lehigh.EDU  
Subject: [13879] Radio in POW camp- Amazing!  
Message-ID: <19980626.021014.9582.1.radioray@juno.com>

Centre for  
the History  
of Defence  
Electronics  
Museum

Construction of radio equipment in a Japanese  
PoW camp

By Lieutenant Colonel R. G. Wells

Transcript of a recording by Lieutenant Colonel R G  
Wells,  
on the construction of radio  
equipment whilst in a Japanese Prisoner of War camp  
after  
the fall of Singapore.  
(recording index card)

It was about the beginning of 1942 when I was a  
prisoner  
of war of the Japanese, when I  
was ordered to go on a working party which eventually  
finished up in Sandakan in British  
North Borneo. 2,000 odd of us were on this work party  
and  
it wasn't long before we  
noticed the absence of information as to the  
international  
situation, what was happening in  
the outside world, and the whole camp had a real  
craving  
to get news by whatever  
means. Escape parties were being organised, but none of  
these was very successful. The  
next thing people turned to was a means of getting some  
radio news, and this is where the  
building of a radio set became an urgent requirement.

The main thing, of course, was that we didn't have any  
components and although we had  
some contacts outside which later on were helpful in  
the  
building of this receiver, it limited  
our requirement to a regenerative receiver as distinct  
from a superheterodyne receiver and  
the decision to do that was borne out by the results.

The high frequency spectrum during that time of the war was fairly quiet in that part of the world and the BBC, we hoped, would be able to be received. This was aided by the fact that the Japanese in their wisdom called a friend of mine out one evening to repair their radio set and he took the opportunity, of course, to switch over to the short wave bands, with headphones while doing that, and picked up the BBC successfully. That day was memorable because it was the day that the BBC broadcast the death of the Duke of Kent in an aircraft crash. That was the only news we had of the outside world for something like six months.

The problem building the set, of course, was the need to build components, so until we could build some components there was nothing much we could do. A look at the circuit diagram of a regenerative receiver indicates a number of capacitors - about two or three are required - low capacitors to make the oscillating part of the system work, and in fact from memory we needed in the grid circuit at least one .01 microfarad capacitor and there was no chance we could get this anywhere, or any other components. So we hit upon the idea of taking some tin foil or aluminium foil from the tea chest which the Japanese supplied with the rice rations, then by the well known equations for calculating capacity and the relationship of the distance between the plates and the area of the plates we built a capacitor or, at least, I built a capacitor which according to calculations should have been about .01 microfarad. If I could put an aside here, I

built a replica of this capacitor  
some years ago, and it went out to Simpson barracks  
where  
we had some friends in the  
testing laboratory, and with great excitement the  
Warrant  
Officer concerned said "We will  
see how good your calculations were"; so he put it on  
his  
equipment which was accurate  
to many decimal points and read on his display unit  
.009  
microfarad, so we thought we  
were pretty good. I said "Touch " to him because he  
didn't  
think we could do it. I made  
two or three of these, and I still have one of them  
that  
would work if I built the receiver  
again, which I have been thinking about doing but  
there's  
always something else, like a lot  
of other projects which one has as one gets older.

The resistors were another problem. We found out that  
we  
could use the impurities in  
some of the tree wood and the bark, particularly  
cinnamon  
bark which was available by  
getting through the wire only about 2 feet, and we  
could  
normally pinch that while the  
Japanese sentry was moving around. We used a piece of  
string with the material rubbed  
on it from the burning of the cinnamon bark which had  
some  
impurities in it (we didn't  
have a chemical analysis); we weren't very fussed  
because  
most grid-leak resistors were  
about a megohm or thereabouts and we had no means or  
any  
way we could measure a  
megohm, so it was largely a trial and error thing to  
see  
if it would work. We made a  
number of these bits of string and tied them round

different things to dry them out to get  
the thing going. Eventually about an inch, three  
quarters  
of an inch to an inch, was about  
the right order of things to get about a megohm  
resistance. They were the two main things.

Now the things we couldn't provide, couldn't do. We had  
to  
make coils; they were largely  
trial and error, one could calculate the inductance of  
these if one had access to some  
means of measuring the wire gauge and the space between  
them. So that was largely a  
trial and error business.

The two biggest components, or two biggest  
requirements,  
were we needed some  
headphones and we needed a valve, and I thought that  
the  
rest could be made locally with  
a bit of luck. On the question of the headpiece an  
outside  
contact smuggled in one  
headphone, which was better than no headphone, and a  
valve  
- no valve holder but one  
can't have everything in this life.

The other trouble was the power supply. The Japanese  
main  
around the camp which  
provided the power was 110 volts roughly according to  
the  
power station meter which  
we couldn't help but see, because we delivered the wood  
there while the power station  
was running; I switched over when no one was looking  
and  
the frequency was about 60  
Hz, not 50 Hz as we thought, not that this worried us  
anyway but to know that it was  
manageable.

So two problems remained for the power supply. The  
first  
one was the A-battery or low

voltage supply necessary for the filament of the valve.  
We started with a couple of dry cells, but these didn't last very long and we had to make something then. Through being friendly with the pharmacist with the party, we got some potassium bichromate and made up a bichromate cell, which is probably well known in the text books but not of very practical use. It's fairly hungry for zinc and it needs some sulphuric acid which one can't throw around or hide easily, but it served for some time and was quite successful but, in the end, had the operation lasted very long, we would have been in trouble for that. Two of these cells provided about 3 volts to 4 volts, and 6 volts was a bit too much because each cell was running at a bit over 2 volts, about 2.2 volts.

The biggest problem was a rectifier to rectify the AC into DC without dropping it to a low voltage, because remember in those days we needed high voltages for the B supply, or anode supply, but in these days we bring everything down to small DC voltages; we needed to get them up as high as we could. That was a partial failure in that using aluminium foil again and oxidising one piece of it, or length of it folded over, with some weak acid and then using the two electrodes, one of clear aluminium and one of a zinc salt and aluminium, we could make a rectifier. We wouldn't be so audacious as to call it a rectifier now, because it had a reverse voltage of something like 30 or 40 volts, which wasn't exactly ideal, but for DC we had no option. The result was that I made a bridge rectifier but the only problem was that after 15

minutes  
the electrolyte began to boil, so it  
was really passing current in both directions but a  
little  
bit more one way than the other.  
So a single cell, an extra rectifier cell, was the only  
way I could close this down a bit, and  
some smoothing. This we achieved with part of a fish  
plate  
from the railway line which  
was being used at the aerodrome to move the dirt from  
one  
place to another by  
man-power, about six men on these, and the odd fish  
plate  
used to disappear anyway for  
various reasons. I dropped one off at the power station  
and asked the Chinese under my  
breath if he could cut it into three little sections  
which  
he did, he didn't want to know why.

Then again using some palm oil and some bee wire which  
was  
in fairly plentiful supply,  
which we stole - it was a bit risky because the  
Japanese  
were cultivating a couple of  
beehives outside the wire and of course this wire used  
to  
disappear for various things  
unrelated to radio - and we put the palm oil along the  
wire stretched out and rubbed this  
palm oil on it, thickening it with a little bit of  
flour  
and then heating it; the flour bound the  
palm oil together and formed a fairly good insulation  
over  
the wire. Good, but lucky, and  
with a lot of travelling.

I should come back to the capacitors on that, because  
we  
had to insulate the layers of  
those which we did by putting a layer of newspaper (a  
few  
people had newspaper and  
various things, for other reasons than newspaper of

course, but then we had no other  
toilet requisites in the party) and by soaking this in  
some coconut oil we could insulate  
each layer after we wound it, and with a piece of this  
bee  
wire - we had something like  
fifty feet of it - wound round this part of the fish  
plate, we made a fairly good choke coil.  
And then a bigger capacitor, which was no trouble,  
having  
had success with the small  
one, to just wrap as much tin foil as we could round  
another sheet of newspaper which  
finished up about 18 inches long by about three  
quarters  
of an inch in diameter. We didn't  
even try to measure the capacitance of it, because we  
couldn't do anything about it  
anyway, except put more wire on. And that in effect was  
a  
fairly good rectifier, a very  
dangerous one because we had the 110 all right but we  
had  
a bit over that by the time we  
had rectified it, and we don't know because we had no  
means of measuring it.

Finally, the valve; we joined the valve by winding the  
clean little bee wire around it and  
then plugging it with any insulating material we could  
get  
to make it stick, - no valve  
holder, of course. So eventually we produced a receiver  
of  
sorts, except it wouldn't  
oscillate. We tried building more, another choke coil,  
and  
this went on for ages; there was  
no possibility we could get this valve to oscillate. I  
think it's recommended according to a  
friend of mine who had an amateur licence, he thought  
that  
about 120 volts was the best  
we could get and there was no way we could get that by  
trying to smooth this any more.  
So the only avenue open was to bribe one Chinese  
working  
at the power station who was



very much our way, and of course in those days was a nationalist Chinese. The capital of China in those days was Chungking, and I told him we could get him some overseas news from Chungking if he would slowly wind his field coil power up on the generator every night starting at about 9 o'clock bit by bit, and get it up to about 130 on his meter. He understood, and after that I said half an hour to drop it again, very quietly and slowly because it may affect the lights "....and you no speak about that because you get chopped, you know, and we will give you Chungking news...." This was duly done and for about six months we had reliable communication. The first trial on air had too much hum, and we had to modify a few things two or three times in attempts to get it right, and in the end we had a workable situation which was worth exploring.

Capacitors right, choke coils right, one head phone, we had some old rag so we tied it round the head and tied it on, or string, or whatever we could get. With the hope of recording something we took some paper, which wasn't in plentiful supply, but the odd piece of paper we could get. Running notches down the left hand side, about a quarter to a half inch apart down the paper, and bending it over so that these little pieces stuck up in the air, and in the pitch darkness one could then put the headphones over one's head with eyes looking out for possible interruption by the Japanese - we had some lookouts, or cockatoos as the Australians called them, around the place to warn us at the oncoming of the Japanese - and with great trepidation we heard Big

Ben  
chiming one night. Of course  
only one of us heard it but we were so full of  
enthusiasm.  
It was the BBC all right; it was  
quite a clear signal but it was somebody talking about  
growing hops in Kent. This  
broadcast went on for something like three quarters of  
an  
hour without any interruption,  
but ultimately the signal faded out and I was very  
annoyed. I was asked the next morning  
by my senior officer what was the news, and I said  
"we've  
got good news; I can't talk  
here, come this way." So he came along and said "what's  
this news you're talking about."  
I said I didn't actually hear any news, and he became  
very  
annoyed with me and said  
what the hell did I mean, and I said "if the British  
primary producing experts are capable  
and able to spare the time to talk about growing hops  
in  
Kent, Britain must still be alive  
and floating with their thumbs up, and as far as I'm  
concerned that's the best news I could  
hear!"

That's the outline and maybe there are some questions I  
haven't covered properly.

BJ: The first question I would like to ask you is: What  
did you have in the way of tools, if  
any, and how did you connect the components of the  
wireless without, presumably, a  
soldering iron?

RGW: No soldering iron, no solder of course, and no  
other  
system really available but to  
twist and wrap with some coconut oil paper, or  
cardboard  
or something, and very gently  
lift it. It was on a platen of wood we obtained  
somewhere;  
it was about a foot by a foot  
or something, so we just mounted the components on

that. A  
meat skewer on the  
capacitor - oh, we had a capacitor too, a capacitor, a  
valve and a headphone, which  
were external to camp components we had. We didn't have  
any tools at all, except  
someone obtained the use of a sledge hammer - for what  
purpose I don't know because  
one of those would not be needed to escape; other than  
cutting up the soft iron of the fish  
plate which was about the only reason we needed  
anything,  
the rest were just twisted  
wires. We just wanted to get one usable because we  
didn't  
know whether it might be  
blown up or captured; we weren't worried, the main  
thing  
was initially a short term aim  
(as well as a long term aim) that it might last.  
Fortunately, it lasted for over a year - sixteen  
months until the arrests took place, but that's another  
story.

BJ: Can I just ask you - the components for the low  
voltage battery cells that you  
produced, where did you get all the components from?

RGW: Well, zinc wasn't hard, there was some sheet zinc  
lying on the aerodrome and we  
pinched quite a bit of that because that would be eaten  
away during the use of the cells for  
the low voltage. I don't know what would have happened  
if  
that ran out. I think someone  
produced two lantern cells which did for a while, but  
it  
was mainly on this home-made cell  
system, which wasn't efficient but nowhere near as  
inefficient as the rectifier was. We  
must have been consuming... Ah Ping said he had to turn  
up  
a lot of power to keep the  
lights what they wanted. We were dispersing such an  
amount  
of power in this four test  
tube rectifier for the high tension.

A variable capacitor was another component we had to bring in. We couldn't make a variable capacitor, it was impossible. We had to take two plates off the one we had to get a high enough frequency. Yes, I can't remember why we didn't go up a bit in inductance; it was largely a trial and error business really. Except that in a regenerative receiver you had some idea when you were near a station because the receiver was so sensitive as all regenerative receivers are. It had a piece of meat skewer type wood which I had a hole drilled in by a pen-knife, and we glued this in with some flour glue or something, into the capacitor shaft so that we could tune it by holding a little stick across it, fixing it at about six inches because one couldn't get one's hands any closer to the set because it was in a state of very near oscillation where the maximum sensitivity is, just before it bursts into oscillation. With a fairly clear HF band, it wasn't long before we knew roughly, by putting a couple of marks on the stick, where it was. We knew that the Voice of America was about a quarter of an inch away from the BBC - I don't think we ever knew the frequencies because the BBC didn't announce frequencies, they just came on the air and broadcast.

BJ: What did you use for an aerial?

RGW: A clothes line. All the huts had a clothes line of some sort so we just took a thin

wire from that and wrapped it round the edge, knowing that a normal sentry wouldn't take

any notice of it, and we just dragged that across the  
side  
of the hut and brought it in, and  
odd people with our permission would put their loin  
cloths  
out and hang them over this  
when they washed them so it looked as if it was being  
used. The toilet in the sleeping  
block was a hole in the ground and it was verboten to  
be  
used by anybody except to put  
our radio set in when it wasn't in use; everybody  
respected our wishes in that regard!

I think the best thrill was, well two or three thrills,  
which were momentous I suppose and  
of great excitement, almost excitement of crying with  
excitement, and the first was I think  
when we heard a full news bulletin of something like  
400  
aircraft over Dresden or  
somewhere, pounding the place to pieces; we were very  
pleased about all this. But from  
the land point of view, from the beginning of '42 I  
think,  
I can't remember, but sometime  
just before the Battle of Alamein, and we heard some of  
the troop movements in  
preparation for that. The bulletins in those days were  
fairly long and gave a lot of detail.

Unfortunately the first lot of rectifiers blew up about  
2  
days after this so we were out of  
business for something like 5 or 6 weeks. Of course,  
the  
rumours started to flood in as to  
what was happening, what wasn't happening, the war  
would  
be over in 5 minutes and all  
these mainly optimistic things; but there were a few  
super-pessimists who said we would  
never get off the island, and would die there, and that  
sort of thing. But the thrill, I think,  
was when reception was restored again and we had to do  
another little bit of fine tuning  
because everything you changed seemed to affect  
something

else; the whole thing was  
very sensitive and wouldn't have stood up to present  
day  
quality assurance bump tests!

So back there on the first night we missed the BBC for  
some reason, and the next thing  
was the Voice of America which had a headline which ran  
something like this: "The war is  
over in North Africa, Rommel is knocked to pieces, he's  
out of the Middle East and the  
Middle East is finished, the future for this and that  
....." That was the end of the  
American news in about three sentences! No other  
detail,  
so I said we would go back at  
about 12.30, and hope that Ah Ping hadn't pulled the  
voltage down too far, to see what  
we could hear. Again, the BBC was a little low but it  
suddenly came quite bright and lifted  
in volume, and Big Ben chimed again and there was a  
voice  
in the wilderness calling. It  
was a lovely sensation to hear Big Ben playing in those  
days, and every time I hear it now  
I become excited. The announcement, initially in a most  
depressing vein, described all  
about the 8th Army's movements, and it was here that it  
did this, and this regiment drew  
up and did that, on and on this went for something like  
15  
to 20 minutes, and we tried not  
to follow it because we had our eyes on too many other  
things, look-outs and so on. But  
a lovely flow of English and if you had a tracing board  
you could have traced out exactly  
where everything was in situ, but of course that wasn't  
the aim of our exercise which was  
to get news. At the finish of the news the polite  
sentence  
said "It must be considered now  
that as all resistance in North Africa has been  
overcome  
the Allies victory must be  
assured" or something like that. And that was all he  
said,  
but he took a few minutes to  
describe everything that happened, so you had a clear

picture. But the Americans seemed  
to be creating for a public that just wanted the  
headlines, three headlines and that was all;  
no other interest in anything else. That was one of the  
happy moments of the system.

We had the problem, of course, of writing the news  
because  
naturally a lot of people  
wanted to know it and a lot of people could be told it  
without its origin. This is why we  
used the piece of paper we took with us (Gordon Waite  
and  
the other officer who used  
to share some of the work), and as soon as we heard  
about  
30 bombers over Dresden or  
something, you just put 30 BD, or B for Berlin, and  
feel  
the paper down when you felt it  
coming to the end, and pick up the next little bit of  
bend  
and write along that in the pitch  
dark, hoping that you've got something in the morning.  
Surprising how legible it was, just  
triggered a couple of words like that. Unfortunately, I  
was in deep custodianship with the  
Kempitai when the Atom Bombs were dropped and I didn't  
hear that news on the BBC;  
it was relayed to me. We didn't keep these things, of  
course.

Getting off the technical side now, the radio set  
didn't  
betray itself. Some criticism could  
be levelled at us I suppose. We trusted too many  
people;  
we had no intelligence training  
then, of course, or anything like that and we were  
inclined to trust every Asian we met  
who smiled at us and who said he was one of us. Anyway,  
while this was going on at the  
aerodrome and once the troops heard, we had to tell the  
troops the good news of course.  
We said we had heard from an unknown source that the  
war  
is getting better, or  
something like that - we had to give them a sanitised

version. It was probably all they  
wanted but, naturally, two or three senior officers  
wanted  
to know as much as they could  
because they may be the ones who would have to take  
some  
decisions one day about it.

Unknown to us an Indian - I don't like saying this and  
I'm  
not being racist, it could have  
been any nationality - blackmailed a Chinese who was  
helping us on the aerodrome  
picking up bits of iron for us and various other  
things.  
He blackmailed him but the Chinese  
wouldn't talk, so the Kempitai arrested the Chinese and  
put him on a rack; he mentioned  
in the course of his cries for help - which was not a  
nice  
thing to think about but I don't  
blame him - he mentioned Captain Matthews and a couple  
of  
other people; I think I  
would have done the same thing at that stage.

The Japanese then decided to make a raid on the camp,  
which they did, and I was then  
charged and taken away by the Captain; he wanted the  
receiver and I gave it to him in the  
end after a lot of leading him round the camp with his  
soldiers. I could almost laugh at  
some of the things that happened. He must have told  
them  
he was looking for a radio set;  
a Jap soldier came running up to him with a piece of  
metal  
which looked like a piece of  
horse harness or something; the Captain almost kicked  
him  
and told him what to do. So in  
the end I decided that I couldn't talk to anybody  
before  
the rest of the troops on this  
parade ground, and I felt so conspicuous. He walked  
back  
and said "Are you going to tell  
me because we want the wireless set?", so I said "Yes,



I've just thought where it might  
be". So I went across and told him where the hole was,  
and  
they dug the hole up and, of  
course, there was the transmitter. He said "Ah, you've  
been sensible at last", so he took  
the transmitter and they took it away.

From that day on, I was worried about this because I  
knew  
the receiver was OK and the  
troops would be happy about that; they would still be  
able  
to get news. And then he took  
me up to the platform where he stood and addressed  
everyone. All he said in English was  
"You all look at this man, you will never see him  
again"  
and led me off. I had a sort of a  
dying wish, going in on the vehicle to Sandakan to be  
interrogated, that somehow or other  
this set could be preserved and, of course unknown to  
me,  
it was. They continued using it  
but not until after about a week or so - their nerves  
were  
a bit shaken. But they used it for  
some months afterwards until the big moves came and it  
was  
a successful source of  
morale lifter.

During the trial, that was when the shock came to me  
when  
this transmitter was brought  
out by the prosecution as evidence that we had been  
using  
a receiver, but the Court  
accepted it. It was never mentioned after that because  
had  
it been, I don't think either of  
us would have been alive, because we had planned to get  
some crystals from the  
Philippines and try and fit them in this set then we  
could  
call them on CW and give them  
some news about ourselves. But we did get some news by  
other means, via an agent

taking a sandalwood vessel across, that the British and Australian authorities knew where we were, and it was proved at the end of the war that they knew exactly where to come for us. They had guerilla parties in behind the lines, but they couldn't contact us and they had to watch some of our people just die virtually, because they were there and there would have been trouble otherwise.

BJ: Could I just take you back and ask you to fill in a few details about the transmitter. You talked a lot about the construction of the receiver and I would be very interested to know where the transmitter fitted in to this; were you developing that alongside?"

RGW: "No, the receiver first; we had that, and then we started the transmitter as a rather low priority of course, but one it would be nice to have. I had finished the two 6L6G's to make a push-pull amplifier that was the RF output to be, and the oscillator, and we had the capacitor but were missing a few more components and that was about where we were. In other words, in the course of events, had he been an expert with some sort of knowledge of electrical engineering, we would never have got away with two 6L6's sitting up on a block of wood with a few capacitors and things hanging on them, but obviously the Court Martial officers were normal, without disrespect to Infantry Officers, and they had no knowledge of telecommunications.

BJ: Again, the valves you used in the receiver were...?

RGW: Only one, that's all we had, which was brought in by

Mr Mabey. He smuggled in  
a pipe to me, a smoking pipe, with some tobacco. Lovely  
gentleman. Unfortunately, I  
never had long with him, he died soon after being  
arrested. His widow lived at Hove with  
her sister; the two are deceased now.

End of recording.

This site is managed by the School of Conservation  
Sciences, Bournemouth University,  
UK

People Index | CHiDE Home | Address

----- End forwarded message -----

-----  
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Or call Juno at (800) 654-JUNO [654-5866]

-----  
Date: Thu, 25 Jun 1998 22:29:36 -0400 (EDT)  
From: Bruce Muscolino <w6toy@erols.com>  
To: inforhc@mail.infocom.etecsa.cu  
Cc: QRP-L@Lehigh.EDU  
Subject: [13880] RE: Fire power  
Message-ID: <2.2.16.19980625222105.21df847e@pop.erols.com>  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"

Here in the Washington, DC area we have an annual Naval exhibition called  
"Sea-Air Power" ort some such thing. Last year I happened across the  
Babcock-Wilcox Company booth where they had a working thermopile power  
supply running a small portable TV. I stopped in there simply because B&W,  
who used to be the worlds largest steam boiler manufacturer, was  
headquartered in a small towm about 7 miles from whre I grew up. The  
thermopile was an extra attraction I discovered by asking one of the  
representatives standing there what it was. It was being manufactured using  
technology they licensed from a company in the Seattle Washington are and it  
turned out the rep I asked was from that company. He said they wre hoping

to market it to the small boat world. Oh, the TV was showing a nice solid picture!

73

-----  
Date: Thu, 25 Jun 1998 23:19:30 -0400  
From: macstein@cftnet.com (Mac Steinmeyer)  
To: qrp-l@Lehigh.EDU  
Subject: [13881] RE: Radio in POW camp Amazing!  
Message-ID: <199806260323.XAA21353@renoir.cftnet.com>  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"

I loved this posting about constructing a receiver and later a transmitter in a WWII POW camp. What a fascinating read! As I struggle to learn the theory in the Elmer 101 class -- this adds a wonderful perspective to my desire to understand how and why these things work. Thanks!

-Mac-

73/72 KF4KSM                      Grid Sq: EL88rd  
email: macstein@cftnet.com

-----  
Date: Fri, 26 Jun 1998 02:28:50 -0500  
From: mfitz@uswest.net  
To: qrp-l@Lehigh.EDU  
Subject: [13882] NEED MPN3700 PIN DIODE  
Message-ID: <35934DB2.3CA4DC7D@pop.omah.uswest.net>  
MIME-Version: 1.0  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

HELP! Can any of you very fine QRP cats tell me where I can get a MPN3700 PIN DIODE for my 40 mtr HB project? Tried Wilderness but no response yet. Can't find a listing for it in my substitution ref.....You know how it is, I have all the parts except..... Have a FB FD & TNX. Mike KI0AF mfitz@pop.omah.uswest.net

-----  
Date: Fri, 26 Jun 1998 05:59:25 +0100  
From: Leon Heller <leon@lfheller.demon.co.uk>  
To: inforhc@mail.infocom.etecsa.cu  
Cc: Low Power Amateur Radio Discussion <qrp-l@Lehigh.EDU>  
Subject: [13883] Re: Milliwating  
Message-ID: <5X+azCATqyk1EwrD@lfheller.demon.co.uk>  
MIME-Version: 1.0

In message <01bda09d\$2e7a0460\$07199e03@luis>, "Prof.Arnaldo Coro Antich"  
<inforhc@mail.infocom.etecsa.cu> writes  
>Saw a post today of someone claiming QSO's on 15 meters running 1  
>milliwatt...  
>My question of the day...  
>How did you measure that power...  
>For me it proves to be rather difficult to measure with REPRODUCIBILITY,  
>powers below 50 milliwatts... and REPRODUCIBILITY of measurements  
>is according to my Physics Professor what's all physics is all about !

How about using a broad-band amplifier with known gain?

Leon

--

Leon Heller: leon@lfheller.demon.co.uk <http://www.lfheller.demon.co.uk>  
Amateur Radio Callsign G1HSM Tel: +44 (0) 118 947 1424  
See <http://www.lfheller.demon.co.uk/dds.htm> for details of a simple AD9850  
DDS system. See " /diy\_dsp.htm for a simple DIY DSP ADSP-2104 system.

-----  
Date: Fri, 26 Jun 1998 07:55:21 -0400  
From: mike czuhajewski <wa8mcq@abs.net>  
To: QRP forum <qrp-l@Lehigh.EDU>  
Cc: Mike Czuhajewski <mczuhajewski@evi-inc.com>, Mike Czuhajewski <wa8mcq@abs.net>  
Subject: [13884] Free filter design software  
Message-ID: <35938C29.2050@abs.net>  
MIME-Version: 1.0  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

Steve Ciciora asked about some filter design programs--there's a good  
one that I uploaded (with permission) to the QRP-L archives a couple  
years ago, by WB4EHS, Bob Lombardi. (Don't know if he's a QRPer, but he  
did subscribe to QRP-L at least for a while after I told him about the

list.) Actually, there are three versions there. I still use the oldest out of inertia, as I don't really need any of the fancier features of the newer ones and I'm comfortable with it. The program is called "FilDes--the Filter Design System" and runs under MSDOS. It will do high pass, low pass, bandpass and some others, and you can specify the input and output impedances separately. I use it mostly for playing around with low pass filter designs; it lets you specify the number of poles as well as the ripple. It outputs exact values of components, which are almost always oddball values, but you can usually come reasonably close by using the nearest standard values, maybe picking and choosing from among handful of parts of a given value to see which has an actual value closest to what you need. Or you can always parallel two parts to hit the proper value (although I draw the line at two--I refuse to parallel THREE parts for anything!).

You can get the ZIP files from the "tools" area of the QRP-L archives.

Go to <ftp.lehigh.edu>, log on for anonymous ftp, and then go down to

`pub/listserv/qrp-l/tools`

and the file names are `fds124.zip`, `fds200a.zip`, `fds201.zip`. Each of those is a separate, stand alone program. I use the oldest version, `fds124`, although I do have `fds201` (latest version) on disk somewhere. `FDS200A` is just a little older than 201 and can probably be safely deleted from the archives. There's also a little text file that I put on there, `fds124.txt`, but you don't need to bother with it, and I don't even remember what it says anymore. (As with a lot of files on the archives, there's actually a second extension on the file: `fds124.txt.z`.

The `.z` at the end indicates that it's stored in a compressed format--which is *NOT* PKZIP or WINZIP, but rather some UNIX utility. If you request the file without the `.z` on the end, it will decompress it and send you the plain text. If you leave the `.z` there it will send the compressed file and it's up to you to decompress it on your own machine, using whatever the program is.)

BTW, if you use it to design filters, it's always handy if you can plug the values into some other program that will do a frequency plot so you can see what the response is above the cutoff as well as how much insertion loss it has at your frequency of interest. A good one for this is the GPLA program (General Purpose Ladder Analysis) which is on the disk that comes with the ARRL reprint of the Wes Hayward/W7ZOI book, *Introduction to RF Design*. It's been around for a good while and it's not a fancy, multi-hundred dollar program with whistles and bells and super fancy user interface, but still does the job quite well. (It runs under MSDOS.) You can select a tabular output on the screen--a list of printed values of output across a specified frequency range--or a graphical display of the filter response (ie, the output plotted against

frequency). It makes it really handy to evaluate a paper design before you actually build anything.

Another handy feature of GPLA is that you can tune the filter--it lets you vary the values of one or two components and watch their effect on the response--sort of like having an actual filter with a couple of variable caps in it and tuning them while you watch the response curve on a network analyzer or spectrum analyzer with tracking filter.

The screen display of the graphical output is negative, ie, white on a black background. I run GPLA from a DOS shell out of Windows 95. To print it out I use the "print screen" function of Windows to copy it to the clipboard, open up Paint and paste it into a blank screen, select the "invert colors" function to make it black on white, and print. It's also easy enough to edit it slightly in Paint by adding notes, pointers, etc.

I've had a lot of fun with a lot of paper designs of filters, using FDS to design them and GPLA to analyze them. They make a good pair, and they're a bargain--the FDS is free and the ARRL reprint of the Hayward book--with disk--is around \$30. (Compare that with its price when it was still published in hard cover by Prentice Hill or whoever, and sold to the college textbook and engineering markets! And it didn't even have the disk then.) The book is probably a bit over the heads of many hams--it's not easy, beginners reading, but still quite good. (Remember, it was used quite a bit as a college engineering textbook.) And don't forget to check out the other simple programs on the disk that comes with the book.

Usual disclaimers, no relationship with either person except swapping e-mail with both of them from time to time; and in the case of W7ZOI, meeting him face to face in the baggage claim area of the Baltimore Washington International airport to present him with his QRP Hall of Fame plaque a couple years ago!

--

73 and Queue Our Pea de WA8MCQ      wa8mcq@abs.net

-----

Date: Fri, 26 Jun 1998 09:16:00 -0400  
From: "Tracy, Michael, KC1SX" <mtracy@arrl.org>  
To: QRP List <qrp-l@Lehigh.EDU>  
Subject: [13885] FD: W1AW/QRP occasionally  
Message-ID: <m0ypXLu-000ZhTC@mgate.arrl.org>

Hi All,

W1AW will be making field day contacts from the field this year. Some (but not all-sorry) of those contacts (on 40M) will be QRP.

Just thought you'd like to know.

73, Michael Tracy, KC1SX, ARRL Lab

-----  
Date: Fri, 26 Jun 1998 08:15:03 -0400  
From: Greg Weinfurtner <gweinfurt1@ohiou.edu>  
To: qrp-l@Lehigh.EDU  
Subject: [13886] Fire Power:Thermopiles  
Message-ID: <v03110700b1b93fc67ebe@[132.235.72.188]>  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"

Gang,

In the 60's edition of some famous Encyclopedia, there were plans for a candle powered receiver. I'm not sure on all the details, but a germanium transistor was used, crystal head phones, etc.

The thermo-pile (Sounds like a very painful infection...haha!) was made of copper wire and something else. Some of the junctions were in the flame while the other junctions were at room temperature. Yes, one set of the junctions had to be kept cool, while the others were heated.

I think I could find the article, Mom and Dad still have the set of encyclopedia's, ...if anyone was interested and maybe put it on a web page or something...let me know!

73 es CU on the air for field day at NC8V

```
***** Amateur Radio *****
*                                     <><                                     *
*      NN      N SSSSSSS 8888888 0000000 Greg Weinfurtner                    *
*      N N      N S      8      8 0      0 9411 Kitty Ln.                  *
*      N N      N SSSSSSS 8888888 0      0 Athens, Ohio 45701              *
*      N N      N S      8      8 0      0 U.S.A. EM89WH                   *
*      N      NN SSSSSSS 8888888 0000000 DXCC WAS                          *
*                                                                 *
*      "Can thou send forth lightnings that they may go and say            *
*      unto thee, 'Here we are'?" Job 38:35                                *
*                                                                 *
*                                     ns8o@qsl.net                          *
```



\* http://www.qsl.net/ns8o/index.html \*

\* http://ouvaxa.cats.ohiou.edu/~weinfurtner \*

\*\*\*\*\*

-----

Date: Fri, 26 Jun 1998 08:39:12 -0400  
From: "Warren E. Lewis" <saswel@unx.sas.com>  
To: qrp-1@Lehigh.EDU  
Subject: [13887] FD Propagation report???  
Message-ID: <19980626083912.A3477@unx.sas.com>  
Mime-Version: 1.0  
Content-Type: text/plain; charset=us-ascii

Okay gang...did we have any flares or do we expect any for today or Sunday??

Good Luck to all!!!

Look for the big signal of W4DW running 7A or 8A.

cheers - Warren (Ad4ZE)

--

|                                   |                      |
|-----------------------------------|----------------------|
| Warren E. Lewis                   | saswel@unx.sas.com   |
| Systems Developer                 | (919) 677-8001 x6542 |
| Workstation Technologies Division |                      |
| SAS Institute Inc., Cary, NC      |                      |

-----

Date: Fri, 26 Jun 1998 09:27:39 -0400  
From: Zack Lau <zlau@arrl.org>  
To: qrp-1@Lehigh.EDU  
Subject: [13888] Re: Milliwating  
Message-ID: <3593A1CB.622C@arrl.org>  
Mime-Version: 1.0  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

Compensated diode detectors--adding an OP amp and another diode to the typical peak detecting diode circuit, usually allows good accuracy at the 1 mW level.

Alternately, one could use the filtered output of a diode mixer, like the SBL-1. With no amplifiers after this limiting device, its unlikely that something would drift and substantially increase your output power.--Zack W1VT

-----  
Date: Fri, 26 Jun 1998 09:47:31 EDT  
From: RUSSMIN@aol.com  
To: qrp-1@Lehigh.EDU  
Subject: [13889] Re: QRP-L digest 1133  
Message-ID: <714ae8d6.3593a675@aol.com>  
Mime-Version: 1.0  
Content-type: text/plain; charset=US-ASCII  
Content-transfer-encoding: 7bit

How do I unsubscribe ??

-----  
Date: Fri, 26 Jun 1998 10:00:02 -0400  
From: "Ed Pacyna" <pacyna@worldnet.att.net>  
To: "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>  
Subject: [13890] Re: 3V vs 12V vs 24V  
Message-ID: <002b01bda10a\$e51140e0\$2069440c@ed>

Not withstanding the "motherhood" issue, the endeavor described would entail unnecessary complexities, cost, compromise, limitations and trade-offs in performance and efficiency. Without further detail regarding this project, it is impossible to comment in specifics. I am not saying it can't be done.....but why?

A couple of years ago, QST published an article on using lemons as a power source for QRP radios. Wasn't very practical.

If we assume that a weak signal as being .1uV from a 50 ohm antenna and we would like this signal to produce an output of 1V across a 32 ohm earphone, the required amplification is 156,250,000,000,000. That is an awful lot of gain to develop and control using stages that can only swing +/- 1V (i.e.3V less saturation). And then of course there are numerous obstacles regarding mixer and oscillator performance, efficiency etc..

Since power is voltage x current, a radio powered by 3V will consume 4X the current (compared to a 12V battery).

Just don't see a lot of merit here.

Ed, W1AAZ

-----  
Date: Fri, 26 Jun 1998 09:17:32  
From: Steven Weber <kd1jv@moose.ncia.net>  
To: qrp-1@Lehigh.EDU  
Subject: [13891] Sub-mini 3V rig is possible  
Message-ID: <3.0.3.16.19980626091732.26cf443e@mailhost.ncia.net>  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"

Yesterday, when speaking of 3 volt rigs, I forgot about the AD607 Rx on a chip, chip. It comes in a 20 pin SSOP package, so is tiny. Runs on 3.3 volts @ 8.5 ma, 25 mw @3V). Good from HF to 500 Mhz. Demodulates AM, CW SSB and I/Q quadrature data. (No BFO needed, has built in PLL) Has marginal, but sort of acceptable IP3 of -8dBm.

Combined with an AD9850 DDS, would make a neat shirt pocket rig. Could easily make a rig the size of a pack of cigarettes that covers say, 10 to 30 MHz.

About a year ago I went looking for this chip (AD607) and couldn't find anyone who had them in stock. Said I'd have to order at least 1000 of them.

72,  
Steve, KD1JV....In the White Mountains of New Hampshire

"Melt Solder"

-----  
Date: Fri, 26 Jun 1998 10:24:07 -0400  
From: "Pepperdine, Brien (CAB)" <pepperdb@cab.gov.on.ca>  
To: "'qrp-1@lehigh.edu'" <qrp-1@Lehigh.EDU>  
Subject: [13892] Copy of Joy of QRP available  
Message-ID: <1194C216F69DD111AE7400805FFE33B0D564@CAB-EX>  
MIME-Version: 1.0

Content-Type: text/plain

I have an extra new copy of Ade Weiss' new reprinted edition of the "Joy of QRP". I got two ordered from ARCI, but local interests backed out. 20 dollars U.S. plus postage.

Brien  
VE3VAW  
Toronto  
pepperb@gov.on.ca

-----  
Date: Fri, 26 Jun 1998 08:26:06 -0600 (MDT)  
From: Paul Harden <pharden@aoc.nrao.edu>  
To: "Warren E. Lewis" <saswel@unx.sas.com>  
Cc: Low Power Amateur Radio Discussion <qrp-l@Lehigh.EDU>  
Subject: [13893] Re: FD Propagation report???  
Message-ID: <Pine.SOL.3.91.980626082204.18181B-1000000@zia>  
MIME-Version: 1.0  
Content-Type: TEXT/PLAIN; charset=US-ASCII

On Fri, 26 Jun 1998, Warren E. Lewis wrote:  
> Okay gang...did we have any flares or do we expect any for  
> today or Sunday??

Solar activity has been very quiet. Nothing of importance occurred yesterday (thursday) that would cause geomagnetic disturbances on saturday. In short, looks pretty good ... A-index 5-8 (quiet) and solar flux hovering around 105.

I'll post the daily solar report in it's entirety later today when it is issued (about 1600-1700 MDT).

GL, Paul NA5N

-----  
Date: Fri, 26 Jun 1998 10:52:47 -0400  
From: Zack Lau <zlau@arrl.org>  
To: qrp-l@Lehigh.EDU  
Subject: [13894] Re: Sub-mini 3V rig is possible

Message-ID: <3593B5BF.200A@arrl.org>  
Mime-Version: 1.0  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

Did an Altavista search and...

<http://www.conknet.com/piexx/piexx/componen/componen.htm>

They sell AD607s (\$11) and NE5514s (\$5.50)

--Zack W1VT

-----  
Date: Fri, 26 Jun 1998 08:58:19 -0700 (PDT)  
From: Christian - KF6IHU <kf6ihu@morphine.com>  
To: qrp-1@Lehigh.EDU  
Subject: [13895] QRP Mobile... Work Me Please!  
Message-ID: <Pine.SUN.3.95.980626085416.10700A@netcom13>  
MIME-Version: 1.0  
Content-Type: TEXT/PLAIN; charset=US-ASCII

Greets all... just wanted to let everyone know that I will be operating QRP mobile from Monday, June 29th through Thursday, July 2nd along Interstate 80. Am moving from San Francisco to Chicago and thought I'd have some fun on my drive.

Most of the time I will be on 10m SSB, but I also plan on working VHF/UHF with the occasional rest-stop 40, 20 and 15m CW. So if you hear me calling CQ, it'd be really cool if you worked me so I have something to do! Art Bell only lasts so long you know...

72/73 de KF6IHU - Christian <kf6ihu@morphine.com>

-----  
Date: Fri, 26 Jun 1998 16:04:44 +0000  
From: Ed Loranger <we6w@qsl.net>  
To: gweinfurt1@ohiou.edu  
Cc: Low Power Amateur Radio Discussion <qrp-1@Lehigh.EDU>  
Subject: [13896] Re: Fire Power:Thermopiles

Message-ID: <3593C69C.37C3@qsl.net>  
Mime-Version: 1.0  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

After 10 or so posts on alternative energy for rigs, I can't contain my secret background project anymore....

(Of course it is very much in the background still....)

But I have researched the 'Sterling Engine' of the years. I even have plans for a homebrew sterling engine that you can build from a couple of different sized cans and some brazing work. The plans are buried somewhere and we may be moving QTH real soon so I will refer you all to a web search for information.

Some of my web search results from "Alta Vista" are:

The best site is : <http://www.stirlingengine.com/> (Repeated below)

<http://www.mit.edu/people/api/sterling.html>

\*\*\* shows a hand-made and carefully machined sterling engine.

\*\*\* <http://www.keelynet.com/stirling.htm>

(SIC Stirling should be Sterling)

Is an eager memo on Sterling Engine research and quick reference to Solar Energy.

\*\*\* <http://www.stirlingengine.com/>

THE ABSOLUTE BEST INFORMATION HERE!!! READ FIRST!!!

This is an external combustion engine and has been also used in remote countries to pump water. The power source is obtained from any temperature differential. That is (i.e), half of the motor can be in the SHADE and half in the SUN, and at night you can use a small burner to heat up half of the engine..

Check it out. And the Sterling engine is fairly efficient. Best used for fixied power output applications. In fact, there are many sterling engines used to power telephone repeater circuits in remote locations.

This is a must see, folks.

Now my secret is out...

Best FD to all,

Ed Loranger

--

72, =ED, WE6W/qrp CW ONLY; Proud Member: QRP-L/ARCI/Norcal/ARS/AR  
<http://www.qsl.net/we6w> (Enjoying Ham Radio every day.)

-----  
Date: Fri, 26 Jun 1998 12:20:19 -0400

From: "Ed Pacyna" <pacyna@worldnet.att.net>

To: "Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>

Subject: [13897] Re: Sub-mini 3V rig is possible

Message-ID: <005c01bda11e\$5e804f80\$2069440c@ed>

>Yesterday, when speaking of 3 volt rigs, I forgot about the AD607 Rx  
on a

>chip, chip. It comes in a 20 pin SSOP package, so is tiny. Runs on 3.3

>volts @ 8.5 ma, 25 mw @3V). Good from HF to 500 Mhz. Demodulates AM, CW  
SSB

>and I/Q quadrature data. (No BFO needed, has built in PLL) Has  
marginal,

>but sort of acceptable IP3 of -8dBm.

Some additional mixer specifications (compared to the NE602A)

| Parameter             | NE602A | AD607  |
|-----------------------|--------|--------|
| 1dB Compression point | +5dBm  | -15dBm |
| Noise Figure          | 5dB    | 11dB   |

You really have to carefully look at the data sheets. Manufactureurs have a way of making their part look better than it really is. For example, the AD607 11dB noise figure (not a great number to begin with) is best case (Input RF = 150MHz, 10MHz IF). The NF parabolically climbs higher as you change the RF input frequency in either direction (i.e. 14dB at 70MHz which is also the lowest RF input specificied). On the other hand, the NE602A specification is 4.7dB at 45 MHz RF input. It appears that the compression points are both with 20dB of conversion gain.

For linear operation, the maximum RF input to the AD607 is +/- 54mV and the data sheet does warn of the possibility of strong unwanted EM

signals effecting performance.

The AD607 does have on-board PLL and I/Q Demodulators however, I believe an external reference signal (BFO) is required.

-----  
Date: Fri, 26 Jun 1998 11:44:21 -0500  
From: "C.D. Rakes" <cdrakes@ipa.net>  
To: <qrp-l@Lehigh.EDU>  
Subject: [13898] FS: TAC-1  
Message-ID: <199806261635.LAA10996@ns3.ipa.net>  
MIME-Version: 1.0  
Content-Type: text/plain; charset=ISO-8859-1  
Content-Transfer-Encoding: 7bit

S&S TAC-1, 80meters with built in keyer, as new \$150. shipped. KI5AZ at cdrakes@ipa.net

-----  
Date: Fri, 26 Jun 1998 12:53:00 EDT  
From: Bensondj@aol.com  
To: qrp-l@Lehigh.EDU  
Subject: [13899] Small wonder labs- summer break  
Message-ID: <62a0e8d2.3593d1ed@aol.com>  
Mime-Version: 1.0  
Content-type: text/plain; charset=US-ASCII  
Content-transfer-encoding: 7bit

gang-

I'll be off-line next week- my family will save and acknowledge incoming e-mail 'til I can deal with it. Thanks for your understanding.

I'll be in West Virginia doing home repair as part of a church / volunteer effort. I'd like to be able to say I'll have a rig with me, but there'll be precious little spare time for us adult leaders!

73, Dave Benson- NN1G



-----  
Date: Fri, 26 Jun 1998 10:06:09 -0700 (PDT)  
From: KC5TJA <kc5tja@topaz.axisinternet.com>  
To: cy r currier <crc3@telplus.net>  
Cc: Low Power Amateur Radio Discussion <qrp-l@Lehigh.EDU>  
Subject: [13900] RE: Fire Power  
Message-ID: <Pine.LNX.3.96.980626100235.13712A-100000@topaz.axisinternet.com>  
MIME-Version: 1.0  
Content-Type: TEXT/PLAIN; charset=US-ASCII

On Fri, 26 Jun 1998, cy r currier wrote:

> i have done alternative power for years. photo voltaics is best for  
> desert, i believe. water is best and most reliable for a fixed location.

How about using a Fresnel lens and focusing the sun's rays onto a thermopile? You needn't have a big lens to boil water, and I accidentally cracked a concrete surface with a 8.5"x11" hard lens (granted, it was burning for a while, and the concrete "slab" was only a half-inch thick, but it did crack!). I envision having five or so 8.5"x11" Fresnel lenses all focused onto a single (or multiple, if it's convenient) thermopile.

I envision this technique would be "more efficient" at generating power than photo-voltaics, which are notoriously inefficient, even with today's technology.

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=====
      KC5TJA/6      |      -| TEAM DOLPHIN |-
      DM13          |      Samuel A. Falvo II
      QRP-L #1447   |      http://www.dolphin.openprojects.net
```

-----  
Date: Fri, 26 Jun 1998 11:25:51 -0600 (MDT)  
From: Paul Harden <pharden@aoc.nrao.edu>  
To: qrp-l@Lehigh.EDU  
Subject: [13901] Minor Storm Update  
Message-ID: <Pine.SOL.3.91.980626105007.28379B-100000@zia>  
MIME-Version: 1.0  
Content-Type: TEXT/PLAIN; charset=US-ASCII

This has been a very hectic week at the observatory with half the lab on vacation and we are hosting an international conference for which about every radio astronomer who's ever made a name for himself is here. My personal time has been limited.

A MINOR GEOMAGNETIC STORM is in effect, which I did not mention in my quick synopsis for Field Day, because I don't think by tomorrow it will be a factor. This situation can obviously change as the day wears on and further activity keeps our geomagnetic field perturbed. But right now, there is little to suggest that will happen and hourly indices are already showing the geomagnetic field and solar wind settling down.

The A-index for this storm is expected to peak at 25-35. Heck, it was nearly twice that for QRP TO THE FIELD on April 25th!!! It ain't gonna shut down Field Day.

Yesterday about this time (1630 UTC), the Earth was struck with a Sudden Magnetic Impulse, also called an Interplanetary Disturbance, that put our magnetic field into a minor disturbance (minor geomagnetic storm). These Sudden Impulses are not well understood. It is only being GUESSED that it was caused by a fairly insignificant Coronal Mass Ejection (CME) a few days ago ... only because it is the only event that sorta corresponds to the timing of the arrival of this impulse. The solar wind velocity AND DIRECTION typifies a solar magnetic cloud arrival. These are swirling magnetic lines within the solar wind like Eddy currents. There is a possibility as the Earth travels through the solar wind, the DIRECTION of these "Eddy currents" will change direction, which would be of opposite direction or polarity, and trigger another geomagnetic disturbance.

And another geomagnetic disturbance indeed began a few hours ago, about 0900 UTC 26 June ... which MAY be crossing the opposite field lines. (Not enough data is collected yet). If this is the case, then our magnetic field is likely NOT due for any further disturbances and conditions will settle down in the next 12 hours. By the time you are erecting your antennas tomorrow, it will likely be history.

By about quitting time for me today, all the daily reports and forecasts will be issued ... and I will pass them on to the net.

For those who want to browse this stuff ...

<http://solar.uleth.ca/solar>  
[www.sec.noaa.gov/radio](http://www.sec.noaa.gov/radio)  
[www.ngdc.noaa.gov/STP/geomagnetic\\_data/](http://www.ngdc.noaa.gov/STP/geomagnetic_data/)

Although I have not had time to verify what are on these sites today. If you've never visited these sites ... it takes a little clicking around

to find what you want, but they are full of very interesting data, photos, charts & graphs, etc.

I post the solar data as a guide and to offer explanations when I have the time to do so. But please, remember, this is NOT an exact science yet. In spite of all the observatories, satellites and dedicated PhD astronomers working on this stuff for years, much is still not well understood. Why a major flare can sometimes cause little effect to the earth, while a scant little puff of a CME can trigger a geomagnetic storm is just one of the mysteries. And these sudden ionospheric disturbances (SID's) with no real glaring solar activity is yet another.

Here at the VLA/VLBA observatory, one of our own astronomers, Dr. Dail Frail, is the first to make a radio observation of one of these unknown x-ray/gamma bursts known to occur (non-solar event). Over the past few months, he has been able to map several disturbances where an x-ray burst occurred. The energies involved here are astounding and there is already some thinking that these very distant and very powerful unknown x-ray bursts may in themselves be responsible for variations in the solar wind and other effects, perhaps one cause of these SID's. We've only had the ability to monitor for x-ray bursts from space for two years, and Dr. Frail has only been able to capture a couple of bursts in the radio domain. Kinda hard to do science with a sample of two! Just for my own curiosity, I will ask him this afternoon if there has been any large x-ray bursts detected the past couple of days that might be the cause of today's SID event.

72, Paul NA5N  
National Radio Astronomy Observatory  
Socorro, New Mexico

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Date: Fri, 26 Jun 1998 17:43:53 +0000  
From: Ed Loranger <we6w@qsl.net>  
To: Low Power Amateur Radio Discussion <qrp-1@Lehigh.EDU>  
Subject: [13902] Re: Fire Power:Thermopiles  
Message-ID: <3593DDD9.560A@qsl.net>  
Mime-Version: 1.0  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

You've all been nice..... Stirling Engine  
appears to be the correct spelling...

I have found a web page out of Half Moon Bay, CA that is neat. One link to a .jp website has complete plans under an academic project heading.

URL for the project:

<http://www.bekkoame.ne.jp/~khirata/academic/seminar/indexe.html>  
All necessary drawings. Well done.

The Half Moon Bay company stirling web page is:

<http://www.tamin.com/stirling.html>

Obviously you can go to: <http://www.tamin.com> to start if you wish... Half Moon Bay is only 1.5 hrs. from here in Santa Rosa, CA so I mention it only since it is nearby to my location. No connection.

Oh, in my previous post I mentioned:

<http://www.stirlingengine.com/>  
well, they've got a stirling engine for sale that runs off the heat of your coffee cup! Neat stuff.

I don't see heated thermocouples getting anywhere near the efficiency and power output of one of these.

For those without web access, please visit a local library and use their free terminals -- I am in no position to translate and email any of this information -- and remember private use only copyright issues...

Best learning to all, and I sure wish I had a stirling engine running off the sun/shade or a candle during field day -- sure to power up my QRP rig.

-Ed

--

72, =ED, WE6W/qrp CW ONLY; Proud Member: QRP-L/ARCI/Norcal/ARS/AR  
<http://www.qsl.net/we6w> (Enjoying Ham Radio every day.)

-----  
Date: Fri, 26 Jun 1998 12:54:55  
From: Steven Weber <kd1jv@moose.ncia.net>  
To: qrp-l@Lehigh.EDU  
Subject: [13903] Re: Sub-mini 3V rig is possible  
Message-ID: <3.0.3.16.19980626125455.2b7f4c06@mailhost.ncia.net>  
Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

>  
><http://www.conknet.com/piexx/piexx/componen/componen.htm>  
>  
>They sell AD607s (\$11) and NE5514s (\$5.50)

Thanks Zack,

I was able to get an evaluation board from AD, and didn't mangle the chip too bad taking it off, but haven't gotten around to trying to use it yet. Now that I know they might be available, could be worth trying.

Think I'd run it off 4.8V, four ni-cad cells for some extra margin. Guess I might have to brake down and buy that cheap (\$250.00) stereo microscope from Edmund Scientific after all.....

72,  
Steve, KD1JV....In the White Mountains of New Hampshire

"Melt Solder"

-----  
Date: Fri, 26 Jun 1998 14:17:39 -0400  
From: Zack Lau <zlau@arrl.org>  
To: qrp-l@Lehigh.EDU  
Subject: [13904] Re: FW: HR2/ KD2IX 7/14 - 7/27  
Message-ID: <3593E5C3.6970@arrl.org>  
Mime-Version: 1.0  
Content-Type: text/plain; charset=us-ascii  
Content-Transfer-Encoding: 7bit

If the bands are in good shape I hope you will call CQ running QRP on the CW frequencies--tough to work DX if everyone listens! When I was in Hawaii I brought a book and ran the memory keyer.  
--Zack W1VT

Lauri\_Frank\_J@bns.att.com wrote:

>  
> I will be vacationing in San Pedro Sula, Honduras and will be operating  
> as HR2/ KD2IX from a friends house.I will probably be on the air  
> starting at 1900 UTC.The days of possible operation are July 14 through  
> July 27.I will not be on every day.I will try to operate CW and SSB on  
> 20 and 15 meters.  
> Frequencies are +/- ..... 14.265 & 14.058  
> 21.265 & 21.058

> I will probably run about 100 watts and a beam but I will also listen  
> for QRP stations. I will try to lower the rig down to 5 watts at  
> times. The station belongs to another Ham in San Pedro.  
>  
> 73,  
>  
> Frank - KD2IX - Carmel, New York - FN31

-----  
Date: Fri, 26 Jun 1998 12:54:02 PDT  
From: "laura halliday" <marsgal42@hotmail.com>  
To: qrp-l@Lehigh.EDU  
Subject: [13905] Re: linear  
Message-ID: <19980626195402.14226.qmail@hotmail.com>  
Content-Type: text/plain

George T. Baker (w5yr@swbell.net) wrote:

> Pat, you really don't need a "linear" for cw operation.  
> Any Class C amplifier will do the job with higher efficiency.

The most bang for the buck at low HF may be push-pull  
Class D IRF510s. Cheap, available, tough, easy to drive,  
and easy to get right.

Laura Halliday VE7LDH/7      "Laisse le vent tout emporter..."  
Grid: CN88hk IOTA: NA036      - Foly/Viennet

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Get Your Private, Free Email at <http://www.hotmail.com>

-----  
Date: Fri, 26 Jun 1998 15:24:38 -0600  
From: "Steve Galchutt" <n0tu@webaccess.net>  
To: "\"Low Power Amateur Radio Discussion\"" <qrp-l@Lehigh.EDU>  
Subject: [13906] "Honey I shrunk the ZM-2  
Message-ID: <002201bda148\$dd921ea0\$82a8a3cc@SG2939M.webaccess.net>  
MIME-Version: 1.0  
Content-Type: text/plain;  
          charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

Just finished packaging my HB Z-match w/vswrLED. I really liked the ZM-2's design but wanted a little smaller case. It turns out that it's really not that much smaller than Roy's ZM-2 maybe only by 20%? It weighs in ... about the same. If I had it to do all over agn ...I would probably just get the kit from Roy @ Emtech. (but it was darn Fun trying to see how small I could shrink it down!)

see it at this URL > <http://www.webaccess.net/~S&P/myqrp.htm>

.(Standard Disclaimer, etc.....)

72...Steve

-----  
n0tu - solar powered QRP & wire antennas @ 7,200' ASL  
Monument, Colorado - Grid Sq DM79nb  
homepage: <http://www.webaccess.net/~S&P/HRindex.htm>  
email: n0tu@webaccess.net

-----  
Date: Fri, 26 Jun 1998 15:30:14 -0600  
From: Niel Skousen <skousen@srv.net>  
To: qrp-l@Lehigh.EDU  
Subject: [13907] ;;  
Message-ID: <Version.32.19980626152958.00f99890@eaglerock.if.sciencetech.com>  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"

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Date: Fri, 26 Jun 1998 18:11:08 -0400  
From: Dennis Brickey <n4dd@preferred.com>  
To: "'qrp-l@lehigh.edu'" <qrp-l@Lehigh.EDU>  
Subject: [13908] SOLAR Uses for QRP?  
Message-ID: <01BDA12D.CC47CDE0@ppp90.sullivan.preferred.com>  
MIME-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"  
Content-Transfer-Encoding: 7bit

Thanks for your time, I will be the first to say that I am at a loss for any knowledge on the subject of solar energy except for the concept. I

hear of people running their equipment via solar energy and I would like to know step by step how to adapt solar power to my own backpacking station. Such info as, do I need to carry a battery to the field and run the solar panel into the battery and the equipment from the battery? How do I determine the specifications of the panel/s that I would need to make my station operational? Like I said, I am not fluent on the subject so oversimplicity here is not a danger. Bottom line, I want to run the qrp equipment on backpacking expeditions where carrying a marine battery is impossible....I would appreciate any info, Thanks de Dennis/N4DD

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End of QRP-L Digest 1134  
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